

CLAIMS

1. A filter for internal combustion engine liquids, comprising a casing
(2) closed by a removable cover (4) and containing a toroidal filter
cartridge (3) which separates the casing cavity into two chambers (21, 22)
5 for passage of the liquid to be filtered and passage of the filtered liquid
respectively, in which the inner region of the cover is connected to the
facing end of the cartridge by a snap connection system comprising two
complementary parts (10, 111) which are associated with the cover and
with the cartridge respectively, and can be connected together by axially
10 sliding said cartridge and released from each other by rotating this latter
through a predetermined angle, characterised in that that part of the
system associated with the cartridge is located within the central
compartment of this latter, and that part of the system associated with the
cover is dimensioned and shaped to be able to be inserted into the
15 preceding and coupled thereto, where it retains the facing end of the
cartridge in the immediate vicinity of the inner region of the cover.
2. A filter as claimed in claim 1, characterised in that that system part
installed on the cartridge consists of an annular body, a part of which is
inserted into said central compartment, where it provides the engagement
20 seat and the disengagement means for that system part installed on the
cover.
3. A filter as claimed in claim 2, characterised in that said engagement
seat comprises a circumferential series of equidistant recesses which are
provided along the free edge of said annular body part inserted into said
25 central compartment.
4. A filter as claimed in claim 2, characterised in that said

disengagement means comprise, for each of said recesses, a depressed curved transverse surface provided on the inner cylindrical surface of the annular body and having its centre of curvature outside the longitudinal axis thereof so as to present a depth which, starting from a side of the
5 respective recess, decreases until it becomes zero before reaching the next recess.

5. A filter as claimed in claim 4, characterised in that beyond the zero-depth end of said depressed curved surface and spaced from it, the annular body presents an internal abutment which defines said
10 predetermined angle for releasing the cartridge.

6. A filter as claimed in claim 1, characterised in that that system part installed on the cover comprises a projecting sleeve which is intended to be inserted practically as an exact fit into said annular body, and from the free end of which there branch a number of longitudinal tangs equal to the
15 number of recesses of said annular body, each tang being provided with an outer terminal tooth to engage the bottom edge of the respective recess.

7. A filter as claimed in claim 1, characterised in that a sealing engagement device is interposed between said complementary
20 constituent parts of said snap connection system.

8. A filter as claimed in claim 7, characterised in that said sealing engagement device comprises an annular gasket located in an outer circumferential groove provided on a part of the annular body which extends beyond the cartridge, and faces an enclosing skirt carried by the
25 cover.

9. A filter as claimed in claim 8, characterised in that said skirt is

dimensioned to act as a limit stop during the engagement of the snap connection system.